



May 18, 2021

Hon. Rebecca B. Smith
Judge, United States District Court
Eastern District of Virginia
600 Granby Street
Norfolk, Virginia 23510

Re: OceanGate Expeditions, Ltd.'s 2021 *Titanic* Survey Expedition

Dear Judge Smith:

I am a legal and operational advisor to OceanGate Expeditions, Ltd., a Bahamian corporation that plans to undertake a series of photographic and scientific survey expeditions at the wreck site of the *R.M.S. Titanic* during the summer of 2021. I write to advise the Court of OceanGate Expeditions' plans, and to assure the Court and the parties that all activities will be conducted in accordance with the precedent set by the United States Court of Appeals for the Fourth Circuit in *R.M.S. Titanic, Inc. v. Haver*, 171 F.3d 943, 969-71 (4th Cir.), *cert. denied*, 528 U.S. 825 (1999) ("*Haver*"), and the National Oceanic and Atmospheric Administration's ("NOAA") Guidelines for Research, Exploration and Salvage of *RMS Titanic* ("NOAA Guidelines").

OceanGate Expeditions has no intention of disturbing the *R.M.S. Titanic* or interfering with R.M.S. Titanic, Inc.'s ("RMST") rights as salvor-in-possession, or of violating this Court's orders with respect thereto. On the contrary, OceanGate Expeditions acknowledges and respects this Court's exclusive authority and jurisdiction to manage activities at the *Titanic* wreck site. *See Haver*, 171 F.3d at 967-69.

A. Background

The *Titanic* Survey Expedition was conceived, created and is managed by OceanGate Expeditions, Ltd., a Bahamian Corporation. OceanGate Expeditions has an exclusive contract with OceanGate, Inc. for the charter of the Bahamian-registered crewed submersible *Titan*, its support equipment and operations personnel, to conduct dives to explore wreck and wreck site of the *Titanic*.

OceanGate, Inc. was founded almost 12 years ago to expand mankind's understanding of the oceans through the use of manned submersibles. It has organized and conducted over 18 unique submersible expeditions in three oceans, including in Puget Sound on the wreck of the

S.S. Governor in extreme currents (as high as 7 knots) and on an unknown shipwreck in near zero visibility; in the Gulf of Mexico on a complex abandoned offshore oil rig; off Miami in the Gulf Stream to investigate a sunken World War II Hellcat fighter and observe invasive Lionfish concentrations beyond diver depth; and on Alcatraz Island in the high current and high marine traffic area of San Francisco Bay.

OceanGate, Inc.'s Board of Directors includes retired U.S. Coast Guard Adm. John Lockwood and several seasoned technology and business executives. An affiliated nonprofit, OceanGate Foundation, includes on its advisory board the renowned underwater nautical archeologist Jacob (Koby) Sharvit, director of the Marine Archaeology Unit of the Israel Antiquities Authority. The company and its executives are well versed in submersible operations, maritime operations and nautical archeology, having conducted dives for such diverse clients as the Office of Naval Research, DARPA, NOAA, CBS News and many other organizations.

OceanGate, Inc. owns and operates three, five-person submersibles. All are maintained and operated to standards that meet or exceed those of major classification agencies.

For the 2021 *Titanic* Survey Expedition, OceanGate Expeditions will be using *Titan*, a Cyclops-class manned submersible designed to take five people to depths of 4,000 meters (13,123 feet) for site survey and inspection, research and data collection, film and media production. See <https://oceangate.com/our-subs/titan-submersible.html>. Through the innovative use of modern materials, *Titan* is lighter in weight and more cost efficient to mobilize than any other deep diving submersible. A combination of ground-breaking engineering and off-the-shelf technology gives *Titan* a unique advantage over other deep diving subs; the proprietary Real Time Hull Health Monitoring (RTM) systems provides an unparalleled safety feature that assesses the integrity of the hull throughout every dive.

To date, *Titan* has undergone more than 50 test dives, including multiple dives to the equivalent depth of the *Titanic* in the waters off the Bahamas and in a pressure chamber. The Bahamas coast is rare in that it permits short tows of less than 12 nautical miles from port to get to water that is 4,000 meters deep. At 4,000 meters depth, the pressure, temperature and topography are identical to those at the *Titanic*, making the Bahamas an ideal deep-water testing location. This is one reason both the United States and British Navies maintain deep water submersible test facilities in the Bahamas.

The *Titan* submersible is the result of over eight years of work, including engineering evaluation work conducted by the Boeing company under contract to OceanGate, as well as detailed engineering and development work under a company issued \$5 million contract to the University of Washington's Applied Physics Laboratory and a Space Act contract with NASA for advanced design work on the carbon fiber hull. *Titan*'s five-inch-thick carbon fiber and titanium hull, along with its integrated launch and recovery system and real-time hull health monitoring system, are revolutionary advances in manned submersibles.

B. The 2021 *Titanic* Survey Expedition

From early July to mid-August, 2021, OceanGate Expeditions will conduct a series of week-long crewed submersible operations to survey the wreck and wreck site. Given the massive scale of the wreck and the debris field, multiple missions performed over several years will be required to fully document and model the wreck. This longitudinal survey to collect images, video and sonar data will provide an objective basis to assess the decay of the wreck over time and help document and preserve its submerged history. Furthermore, the expeditions will attempt to document and survey the impact of prior expeditions on the wreck and wreck site, so the Court and the public may have a full picture of the current state of the *Titanic* wreck site.

The 2021 *Titanic* Survey Expedition will be the first of many. The exploration team will conduct annual surveys of the wreck in collaboration with scientific and imaging experts from multiple organizations as part of an on-going long-term study to document the current condition of the *Titanic* maritime heritage site. Among other things, OceanGate Expeditions plans to:

- Create a detailed 3-D model of the shipwreck and portions of the debris field using the latest multi-beam sonar, laser scanning and photogrammetric technology.
- Supplement the work done on previous scientific expeditions to capture data and images for the continued scientific study of the site.
- Document the condition of the wreck with high-definition photographs and video.
- Document the flora and fauna inhabiting the wreck site for comparison with data collected on prior scientific expeditions to better assess changes in the habitat and maritime heritage site.
- Sharing a library of images, video, 3-D animation, etc. with the public.
- Freely sharing content with the science community for research purposes and NOAA, as a courtesy and in the interest of working collaboratively as OceanGate has done with NOAA on prior expeditions (such as the Farallon Islands and Lionfish expeditions).

The expedition is scheduled to depart from St. John's, Newfoundland in late June 2021 with scientists, content experts, and mission specialists joining the crew in a series of six week-long missions. The expedition crew size for each mission is about 50 people, including nine mission specialists, submersible pilots, operations crew, ship's crew and content experts. See <https://oceangateexpeditions.com/titanic/the-mission>. Several of the crew members, including myself, have experience either participating in or leading multiple expeditions to the *Titanic*. Qualified individuals join the crew as mission specialists to support the mission by helping to underwrite the expedition and by actively assisting the team aboard the submersible and the ship in roles such as communications, navigation, sonar operation, surveying, photography and dive

planning.

The expedition will utilize the state-of-the-art *Horizon Arctic* as a support vessel. The *Horizon Arctic* is Canadian-owned and operated by Horizon Maritime. The 93.6-meter vessel has the environmentally-friendly CLEAN DESIGN class notation, a hybrid propulsion system, and improved low resistance design for high speed and crew comfort. The vessel also has a remotely operated vehicle with integrated control room and launch and recovery system to assist the submersible in the event of an emergency.

Each dive will consist of the deployment of the 5-person deep submersible *Titan*, which has a 4,000m/13,120 ft. depth capacity (along with a comfortable safety margin). Constructed of titanium and filament wound carbon fiber, the innovative vessel provides a safe and comfortable space proven to withstand the enormous pressures the ocean. *Titan* is equipped with state-of-the-art technology, providing an unrivaled view of the deep ocean. In addition to its view port, *Titan's* exterior cameras provide a constant live view of the outside environment. Crew members can access each external camera view from within the submersible on a large digital display, or on a personal hand-held tablet. With the click of a button on their personal tablets, each Mission Specialist can change the camera angle, monitor the sonar, or view preloaded images of deep-sea species.

Titan is equipped with four 10 hp electric thrusters, which make it highly maneuverable, and it is capable of traveling at a speed of three knots. The submersible weighs 20,000 pounds in air, but it is ballasted to be neutrally or slightly positively buoyant in water. The submersible is always operated to remain clear of contact with the seabed, geology and wrecks. Since the prevailing bottom currents at the *Titanic* run predictably from south to north at a moderate speed of 1-1.5 knots in the summer, the submersible will always approach the *Titanic* from the north, facing into the current as if flying into a headwind, to further reduce the submersible's speed and increase its maneuverability when navigating near and over the wreck and wreck site.

Titan will accurately and safely navigate the wreck and debris field using positioning data provided from an onboard inertial navigation system and from USBL data transmitted from the surface support ship. In addition, a multi-beam sonar unit affixed to a pan and tilt system allows for near 360-degree object recognition to high resolution up to 100 meters distant. High-definition cameras provide views fore, aft, and below the submersible, throughout each dive.

As you can see from the web site links, *Titan* does **not** have manipulator arms or a means to move or retrieve artifacts from the sea floor. No salvage or retrieval of artifacts, coal or rusticles will be conducted. Instead, all of the operations planned for the *Titanic* site will be "look but don't touch" in accordance with the type of expeditions expressly authorized by the United States Court of Appeals for the Fourth Circuit in *Haver*, 171 F.3d at 969-71.

Any ballast dropped by the submersible will be deposited well clear of the wreck and debris field, and within the coordinates listed in IMO MEPC.1/Circ.779. No additional material (plaques, memorial, flowers, etc.) will be deposited, and no black water or grey water will be

discharged within 15 nautical miles of the wreck site.

Operations will be concluded by mid-August. OceanGate is not aware of any other expeditions that may be planning to visit the *Titanic* site during the time period that it intends to be on-site but, if they do, having two or more ships and submersibles operating on site at the same time is a common occurrence. All of my prior dives to the *Titanic* were performed with two submersibles and sometimes a third remotely operated vehicle working in close proximity.

The expeditions will be conducted respectfully and in accordance with the NOAA Guidelines, with which – as I have outlined – we are intimately familiar. OceanGate Expeditions is mindful of NOAA’s interest in implementing Section 113 of the Consolidated Appropriations Act, 2017. However, as James Delgado, Ph.D., the former director of maritime heritage for NOAA’s National Marine Sanctuaries program, pointed out in his submission to the Court last year, a mission such as this, which will not be “conducting any research, exploration, salvage or other activity that would physically alter or disturb the wreck or wreck site of RMS *Titanic*,” does not fall under Section 113 of the 2017 Act, or the International Agreement concerning the *Titanic*, as it is a non-disturbance data gathering mission. See ECF No. 636-1.

Finally, OceanGate Expeditions does not intend to infringe on any intellectual property rights of RMST.

If you would like any further information, please do not hesitate to contact me. Also, if you would like to personally participate in 2021 *Titanic* Survey Expedition, you are more than welcome to do so as a guest of OceanGate Expeditions.

Respectfully,



David G. Concannon

cc: Jackie Rolleri, Esq., NOAA
Brian Wainger, Esq., RMST
Kent Porter, Esq., DOJ